

Clinical Image

A Challenging Case of Unsuccessful Percutaneous Nephrostomy Tube Replacement for Management of Xanthogranulomatous Pyelonephritis

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Clinical Image

A 62-year-old female initially presented in septic shock with altered mental status and was found to have left renal xanthogranulomatous pyelonephritis (XGP) on CT scan of the C/A/P (characteristic image in Figure 1). She had percutaneous nephrostomy tube (PCN) placement for management in addition to antibiotics and supportive care. She was subsequently discharged on culture-directed oral antibiotics with PCN to drainage and plan for interval simple nephrectomy of minimally functional XGP kidney.

The patient subsequently presented to the Emergency Department (ED) concerned that her PCN had stopped draining 2-3 days prior. CT scan of the A/P with IV contrast showed the PCN had retracted into the retroperitoneal fat outside the kidney (Figure 2 panel A and B). PCN replacement was attempted for continued drainage prior to her scheduled surgery.

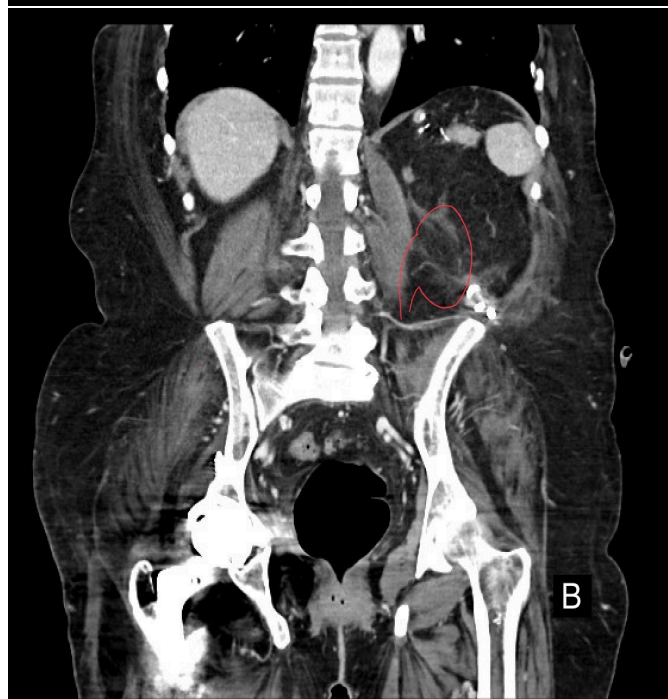
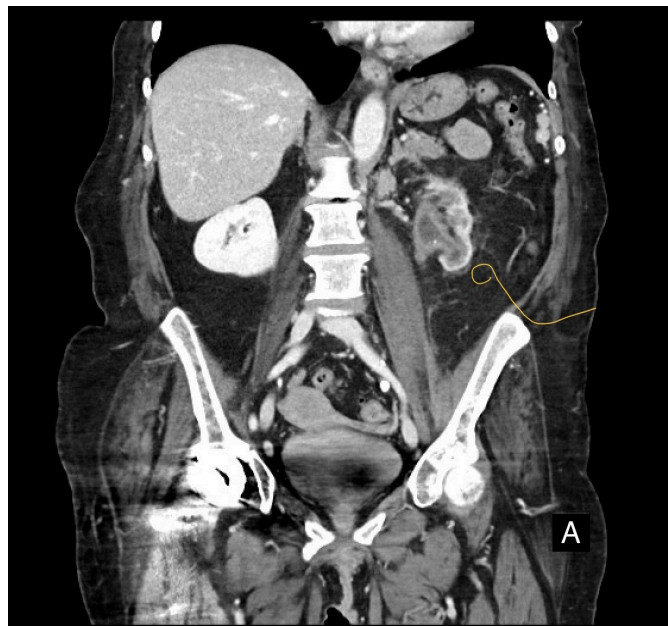


Figure 1: CT Abdomen Pelvis with IV contrast, coronal image, showing characteristic findings of XGP kidney including chronically obstructive nephrolithiasis with dilated renal calyces and thin parenchyma as well as perinephric fat stranding.

Figure 2: Panel A and Panel B: CT A/P with IV contrast, coronal images, showing complete dislodgement of the PCN.

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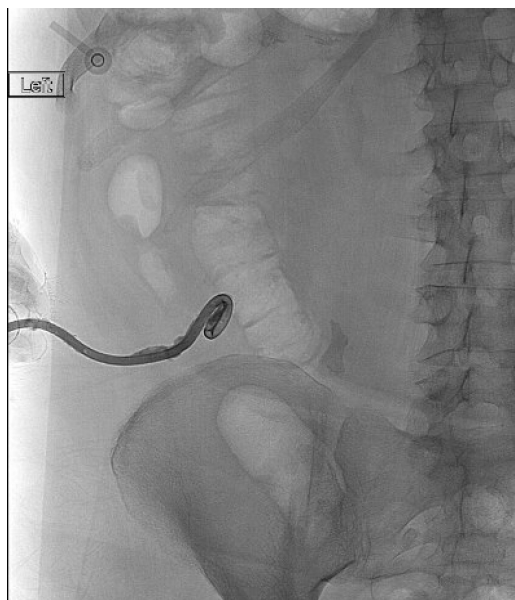


Figure 3: Nephrostogram whereby contrast was injected into the nephrostomy tube to evaluate for a residual PCN tract, but none was identified.

Upon attempt at PCN replacement, a nephrostogram was performed showing no residual tract as contrast did not reach the renal collecting system (Figure 3) and probing for the tract failed to result in recanulation (Figure 4). Because the dislodgement of the patient's PCN was subacute and the tract was scarred, the replacement was unsuccessful. The placement of a new PCN was unsuccessful due to patient obesity and the non-dilated collecting system. Unfortunately, despite continuing oral antibiotics the patient subsequently developed sepsis again prior to her surgery, requiring admission for IV antibiotics prior to a simple nephrectomy.

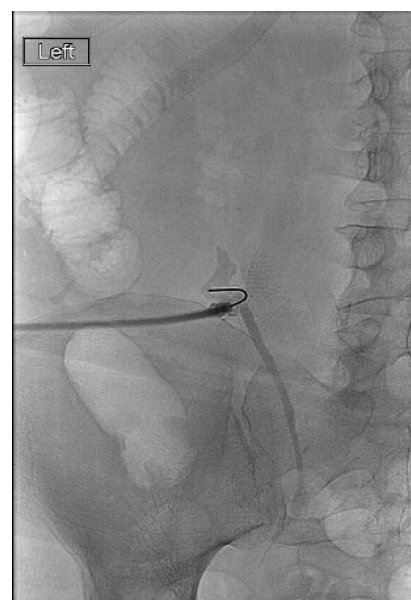


Figure 4: Representative fluoroscopic image from unsuccessful attempts to probe the residual PCN tract.

XGP is a rare form of chronic pyelonephritis caused by chronic renal blockage resulting in a scarred, chronically inflamed kidney. This is typically managed with PCN drainage and antibiotics prior to surgery, but when drainage is lost and unable to be re-established, patients are at risk for worsening infection despite oral antibiotics as demonstrated in this case.

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